



# Sharing the benefits from river basin management



A practitioner's guide



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# Sharing the benefits from river basin management

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guide

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# Abbreviations

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BOAT	Benefit Opportunities Assessment Tool
BRIDGE	Building River Dialogue and Governance
IUCN	International Union for Conservation of Nature
IUCN ELC	Environmental Law Centre
LAGO	Legal Assessment on Water Governance Opportunities
TIDE	Transboundary Instruments Development Tool
WANI	Water and Nature Initiative





Indigenous women wash laundry, Lake Atitlan, Guatemala © Shutterstock/Lucy Brown



# Introduction

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As demand for freshwater increases and climate change affects the water cycle, there is increased pressure on our freshwater systems from competing needs for drinking water, food, energy and industrial production as well as to safeguard underpinning ecosystem services. Sustained modification of natural landscapes over time has compromised the services and benefits that humans derive from ecosystems – a by-product of population growth and economic development coupled with poor environmental stewardship. Nearly the entire world population uses freshwater that has been compromised by human activities, and 82% of the population is served by rivers that have been exposed to high levels of modification and other associated impacts upstream.

The modification of freshwater systems leaves less water available to sustain ecosystem services and the benefits they bring to both nature and people. The benefits at stake include the services provided by healthy agricultural systems, soil biodiversity, fisheries, energy and tourism; protection from water-related hazards; health of riverine populations; preservation of aquatic biodiversity; cross-border trade; and reduced risk of conflict. The impetus to manage shared water resources cooperatively, whether at the local, national or transboundary level has never been greater. Knowledge, innovative approaches and social capital are vital to drive change in how we share benefits and co-benefits across river basins globally.

***“Fundamentally, the governance and management of water resources needs to be just as interconnected as the natural system itself, flowing from source to sea and integrating a rich diversity of landscapes, actors and processes.”***

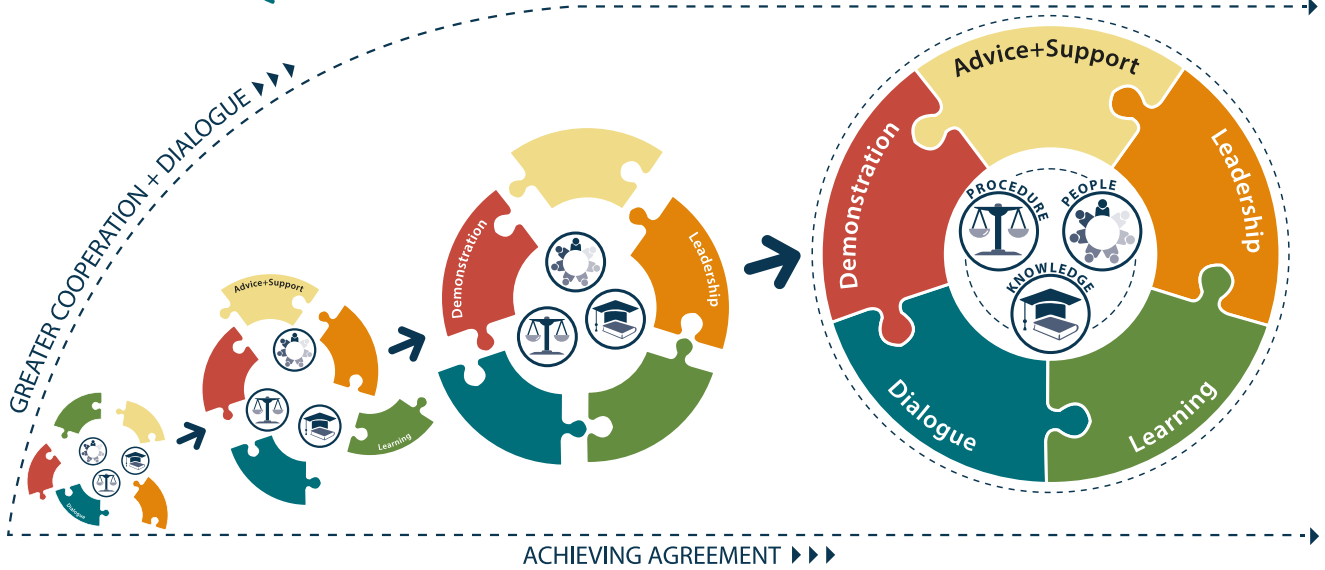
*Alejandro Iza, Director IUCN  
Environmental Law Centre*

Within this context, over the past two decades, IUCN’s [Global Water Programme](#), working closely with IUCN Regional Offices/ Programmes and [the IUCN Environmental Law Centre](#) have spearheaded work on water cooperation and diplomacy, exploring the complexities of transboundary water governance systems, multi-sectoral and multi-level opportunities for collaboration and the sharing of benefits within and across borders to manage water resources sustainably. With transboundary basins providing water to nearly 3 billion people worldwide, cooperation between states for shared governance and management is an imperative. Our experience demonstrates that successful management of water resources at the transboundary level, is rooted in multi-level governance systems that work across scales, stakeholder groups and sectors. Multi-level governance ensures inclusive stakeholder engagement and devolves decision-making to the level at which it is most pertinent to the social and ecological systems being governed.



## BRIDGE - BUILDING RIVER DIALOGUE AND GOVERNANCE

Strategic process towards water cooperation in transboundary basins



**Figure 1:** BRIDGE - Strategic process towards water cooperation in transboundary basins

Inherent to the work on benefit sharing has been the analysis of the associated trade-offs that come with managing multiple, and often competing, water needs and demands. IUCN demonstrates that through fostering stronger cross-sectoral collaboration and more transparent, multi-stakeholder decision-making processes, potential win-win pathways can be identified that combine a common vision with mutually recognised shared benefits and a

rational prioritisation of equitable, economically advantageous and sustainable basin development (see Figure 1). Fundamental to this is the notion that inclusion and equitable sharing of resources strengthen sustainability. Indeed, the power of a benefit sharing approach is especially apparent when taking the long view: upfront investment may be higher but long term gain is ensured through collaborative planning and management.

## Guidance for Practitioners

The benefit sharing methodology responds to a demand for practical and collaborative tools that lead to optimal sharing of water benefits. The conceptual framing follows a process of stakeholder engagement, assessments and knowledge building, to enhance cooperation within countries and across state borders for sustainable river basin management. This practitioner's guide aims to provide water governance practitioners with an alternative way to promote negotiation and set up benefit sharing exercises, inviting all concerned

parties and exploring the needs, basin intervention alternatives and benefit sharing opportunities within and across basins. It gives practitioners guidance on how to develop and facilitate processes that improve understanding of the challenges, trade-offs and benefits faced by different stakeholders, within a workshop context. This is especially aimed at those who find themselves working in complex basins where water is shared between various interests, stakeholders and runs over either county, state or national borders.

Globally, basins are all at different levels of development and institutional and political contexts with different needs, pressures and demands placed on resources and stakeholders. Effective water governance systems need to combine the work of governments with communities' cooperation at the local level. At the transboundary level, water diplomacy has to happen under the authority of national governments but water agreements need the accord of water users. Taking these points into account, IUCN's benefit sharing methodology demonstrates a flexibility that considers the range of political, environmental and socio-economic contexts that practitioners will be working in.

Critically, this benefit sharing process relies on informed dialogue that requires practitioners to have an understanding that is context specific, including of the basin dynamics, socio-environmental challenges, the institutional setting, potential areas of conflicts, interest groups, and so on. This understanding is necessary to ensure their ability to identify, issues that might arise in advance. Such an understanding will help to better determine the way to engage different stakeholders, to present reliable information and conduct the process in an optimal way.









# Benefit Sharing in Water Governance and Management

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Despite the pressures river basins worldwide are under from increasing demands for water allocation from multiple users (including irrigation, energy, drinking water supply, industrial use, environment, etc.), they are often governed by contradictory rules and mechanisms shared between a range of institutions under different mandates. While some river basins have sound governance structures and legal frameworks to ensure the equitable and sustainable use of water resources, others are working towards tackling the diversity of stakeholder needs and (re)allocation of resources within a context of over-exploitation and environmental degradation.

It can therefore be hard to understand who gets what when water is allocated. This is a nexus challenge; trying to balance the different demands and trade-offs so that everyone benefits. It is important to explore these trade-offs, looking at how water is used and to identify both the positive and negative implications and associated benefits, and how these can be distributed under alternative development scenarios.

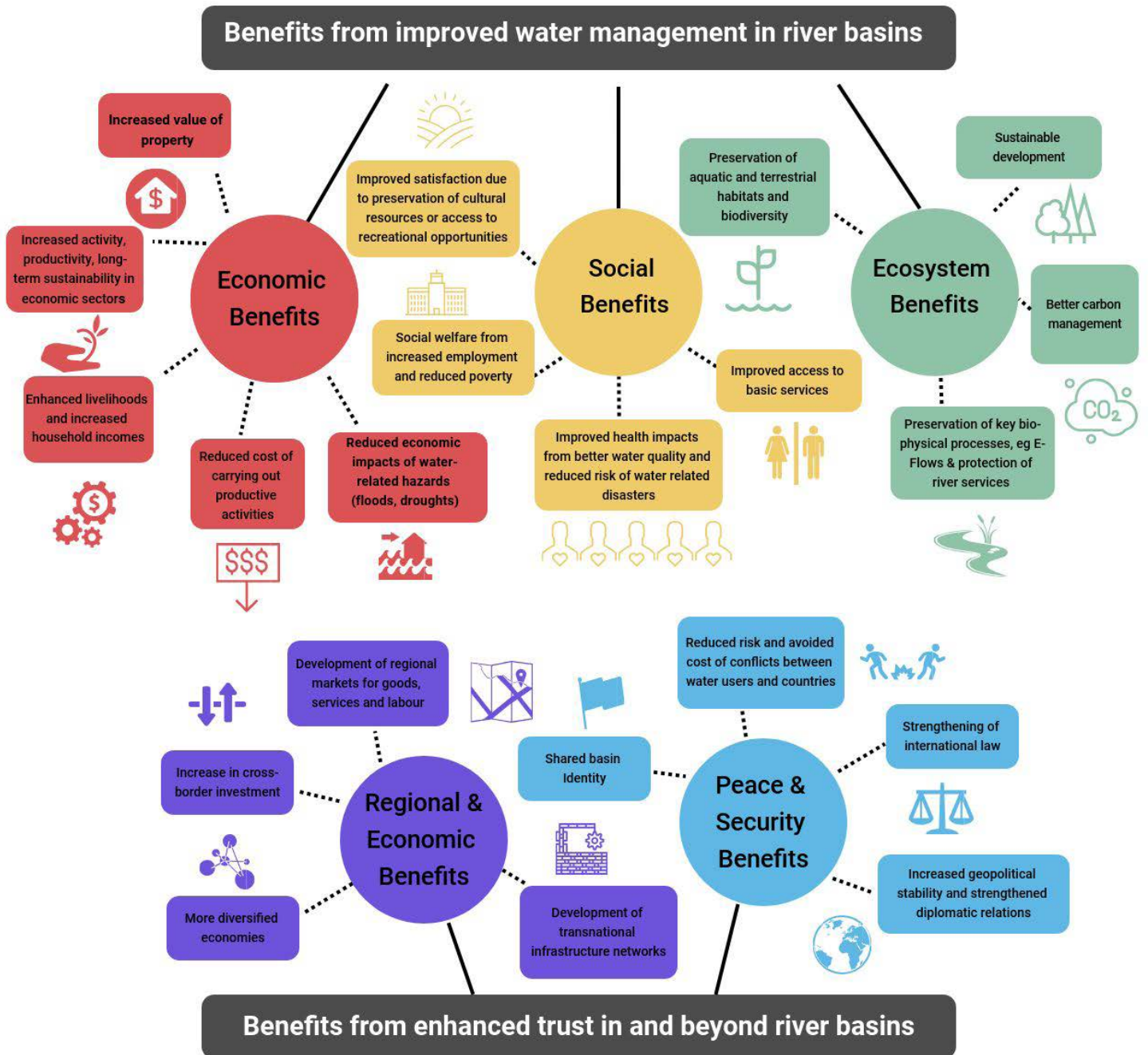
Benefit sharing represents an alternative and inclusive approach to the negotiation of shared waters and involves any action designed to change (optimise) the allocation of costs and benefits associated with cooperation (Sadoff & Grey, 2005). It can be defined as

***“a process where riparians cooperate in optimising and equitably dividing the goods, products and services connected directly, or indirectly, to the watercourse, or arising from the use of its water”***

*Hensengerth et al., 2012*

This enables countries and basins to focus on a flexible and potentially greater range of benefits from trade-offs, optimising partnerships in water use (Dombrowsky, 2009).

A focus on sharing benefits rather than water volumes can release countries from a zero-sum game over a single, finite resource. Furthermore, good ecosystem management can produce a range of co-benefits such as reduced risk of water-related disasters and resilience to climate change (see figure 2 below). Ecosystem services linked to a watercourse or its uses are critical components in the sustainability of a river basin, securing water in adequate quantity and quality for diverse purposes. At the transboundary level, cooperation in developing adaptation strategies can lead to mutual benefits in water management, for instance incentivising better communication between riparian States, and collaboration between stakeholders (Sanchez & Roberts, 2014).



**Figure 2:** Overview of benefits obtained from improved water management and enhanced trust in and beyond river basins (Source: Adapted by IUCN from UNECE, 2015)



Benefit sharing is a key instrument for good water governance as users will share water cooperatively when they believe it is their best option. Since benefit sharing looks at a variety of benefits, stakeholders at multiple levels, and local and national interests (Sadoff et. al., 2008) it enables a basin-wide planning perspective, which not only allows for better coordination of management and development but also provides a greater scope for optimising resource use, identifying ways to increase the overall benefits. Benefit sharing can be applied at different levels and for different situations, it can be adapted to analyse a single water project (e.g. a multipurpose dam), or to catalyse agreements in a watershed within a country, or a transboundary basin under a participatory approach (Geneva Water Hub, 2016).

However, the management of (shared) river basins is complex – it must adapt and evolve to multiple levels of governance, often within changing political landscapes, socio-economic needs, development priorities, population growth and climatic conditions. Basins are dynamic, and so are benefits and costs from (mis-) using water in a given basin. Several conceptual frameworks, approaches or tools, with different foci and methodologies have been developed by researchers, donors, river basin organisations and regional economic commissions, to approach benefit sharing in the context of the management of shared waters (UNECE,

2015; Leb et.al. 2018; Nile Basin Initiative, 2016; USAID, 2009). In IUCN's experience, whilst such conceptual frameworks and methodologies which link to hydrological and economic modeling (Arjoon et.al. 2016), are extremely useful to orient the thinking of practitioners and policy-makers, there is the need for practical tools that are easy to tailor to specific basin contexts to support stakeholders in their move from dialogue to decision-making. Practical tools are key for action.

In response to this demand, IUCN developed this outcome-driven process to applying benefit sharing in water governance across and within river basins. It covers the practice of developing a benefit sharing agreement, starting from initial stakeholder and benefits mapping to discussing trade-offs and possible scenarios, as well as providing guidance on how to navigate negotiating benefit sharing in multi-stakeholder contexts. It does this by adding an inclusion lens to traditional water governance negotiations, examining the needs, interests and roles of different stakeholder groups, especially those that are most vulnerable such as women, youth and indigenous peoples. Importantly, the benefit sharing process can be adapted to all scales, dealing not only with transboundary issues (traditionally where most benefit sharing work has focused) but also issues at sub-national, basin, sub-basin and local levels.







# From Theory to Practice: Operationalising Benefit Sharing in Six Steps

Building on experience and learning from the Water and Nature Initiative (WANI), the toolkit publications *SHARE*, *RULE* and *NEGOTIATE* on transboundary benefit sharing, and the *Building River Dialogue and Governance (BRIDGE)* initiative, IUCN's Global Water Programme and Environmental Law Centre have developed a Six-Step Framework to operationalising benefit sharing. This has developed out of two decades of engagement across 20+ basins globally (including 14 transboundary basins) through facilitated workshops, stakeholder consultations and research.

The approach is currently being piloted through BRIDGE and will continue to be improved upon to ensure practitioners have access to a tried and tested approach. It functions as a roadmap of sequential considerations, and associated practical steps that basins at different stages of development, cooperation and shared management can apply and follow. These steps, outlined

below, can be applied in local, national and transboundary contexts, and are aimed at working at all scales.

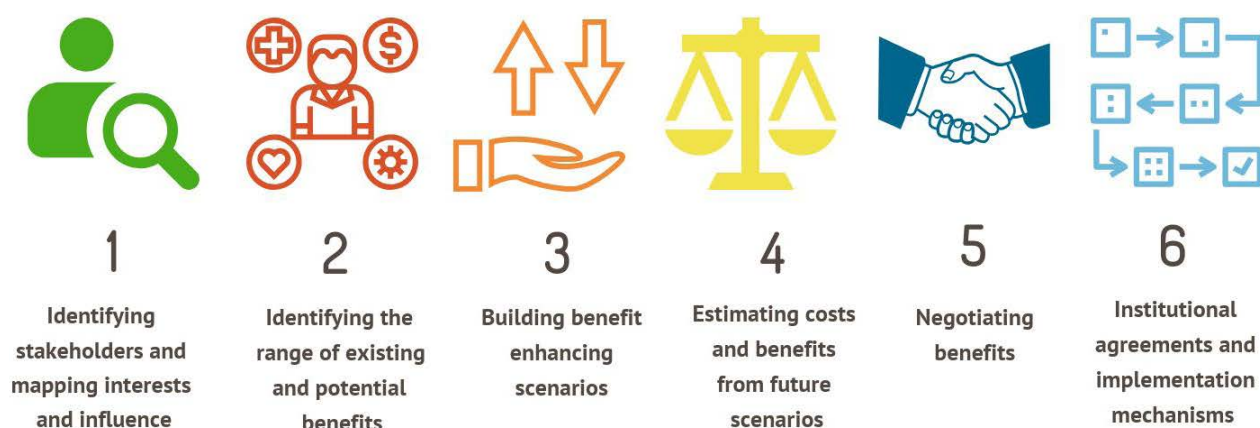
This benefit sharing approach presents water governance practitioners (including local and national government, water authorities, municipalities, civil society organisations, NGOs, private sector and business etc.) with an alternative and inclusive way to promote dialogue and negotiation. The process enables a participatory and transparent dialogue, empowering all concerned parties, and exploring the needs and benefit sharing opportunities within and across basins, while facilitating the understanding around the challenges and trade-offs faced by different stakeholders. This is especially helpful to those who find themselves working in complex basins, where the water flows across counties, states or national borders and jurisdictions and is shared or contested, between various interests and stakeholders.



Publications available from [www.iucn.org/theme/water/resources/wani-toolkits](http://www.iucn.org/theme/water/resources/wani-toolkits)



## Six steps to benefit-sharing in river basins



**Figure 3:** Six steps to benefit sharing in river basins



### STEP 1: Identifying stakeholders and mapping interests and influence

Engagement and effective participation of all relevant stakeholders in decision-making processes enables constructive dialogue, builds trust and creates the conditions for the adoption of sustainable solutions for water management e.g. a reduction in water consumption or more efficient agricultural systems. Stakeholder identification and corresponding mapping of interests/influence is a key part of building an equitable cooperation process. If done well it

ensures that all relevant stakeholders are included from the outset and able to participate. Reviewing stakeholder groups' interests and influence is a good way to better understand the power dynamics in the basin and associated potential challenges and solutions to sharing benefits. A full overview of the basins stakeholders and their interests and influence is necessary to build into Step 3 'Building benefit enhancing scenarios'.



### STEP 2: Identifying the range of existing and potential benefits

River basins offer different types of benefits that can be shared. This goes much beyond the allocation of volumes of water to stakeholders and riparian parties. Instead, it relies on the full identification of specific economic, social, environmental, political, cultural, and other benefits that can be derived from good water cooperation in a particular basin. Identifying the full range of benefits provides a more flexible framework and can increase possibilities for collaboration across sectors as well as visualising

alternative solutions to challenges. To get to this, a range of relevant sectors and stakeholders should be represented in the process of identifying benefits – these include, among others, agriculture, environment, forestry, finance, planning, fisheries, tourism, local government, mining, hydropower and so on. Once these existing and potential benefits are mapped out, these can build into Step 3 'Building benefit enhancing scenarios'.



## STEP 3: Building benefit enhancing scenarios

Identifying benefit enhancing scenarios is an opportunity to continue working with the relevant stakeholders and sectors to produce a set of alternative pathways. The practical skills associated with this Step involve joint qualitative analysis of benefits and impacts from existing and/or proposed new uses of water in a basin. The aim of the exercise is to develop a more in-depth and shared understanding of the trade-offs involved in choosing certain projects

over others or certain combinations of projects, while using a cross-sectoral and multi-level co-operation perspective. In this Step, the use of a Benefit Opportunities Matrix allows for the facilitation of dialogue and joint qualitative analysis of options, to jointly arrive at a set of preferred opportunities, validated and negotiated by the stakeholders themselves.



## STEP 4: Estimating costs and benefits from future scenarios

With an agreed set of possible benefit-enhancing scenarios, based on Step 3 outcomes, a quantitative assessment of all identified benefits and costs can be undertaken. Several methods to value and distribute benefits and costs exist, with different data needs. Many – but not all – benefits can undergo a quantitative assessment

depending on the ambition of the cooperation process and the available budget, existing data and expertise. Quantifying the costs enables relevant stakeholders to hold the knowledge and tools, to better understand and discuss the links between economic considerations and water governance.



## STEP 5: Negotiating benefits

Fair, effective and sustainable management of shared benefits requires negotiation to ensure that the needs, priorities and interests of all relevant stakeholders are recognised, thoroughly discussed and met to the degree possible. In the previous steps, participants have identified the relevant stakeholders, the possible benefits and costs per stakeholder, various benefit enhancing scenarios as well as cost analysis of these. These steps are meant to ensure that the

stakeholders have all the information needed to take part in an informed negotiation, as consensus building can only be achieved with a proper understanding of the interests, challenges, needs and priorities of all relevant stakeholder groups. Through this participatory and inclusive negotiation the goal of this step is to arrive at an agreement which can then be put into practice in Step 6.





## STEP 6: Setting up institutional arrangements and implementation mechanisms

Successful implementation of benefit sharing agreements requires functional institutions and agreed implementation mechanisms. Once the negotiation of a benefit sharing agreement between stakeholders is completed, the development of an institutional arrangement or

implementation mechanism should begin. Final agreements should include provisions for public participation, compensation schemes, accountability, monitoring and enforcement mechanisms as well as financing frameworks.

### Practical tools and tips for implementation

The Six-Step framework on benefit sharing presents a practical process for basin stakeholders to engage with around shared water resources management. IUCN has learned through its work on water diplomacy and sustainable basin management that one of the best ways for learning and ensuring uptake of new concepts relating to the governance of shared waters is to engage stakeholders in practical role-play exercises through which they can detach from their real-life roles/positions. To this end, IUCN has developed a set of fictitious basins, including riparian countries and their geographical, economic, historical and political, hydrological characteristics (Iza, A., 2013). Based on these fictitious basins, IUCN's Six-Step framework on benefit sharing can be operationalised through using this practitioner's guide complete with examples and scenarios for running stakeholder engagement and capacity building workshops.

Each Step in the guide walks the practitioner through how to undertake the Step with basin stakeholders in a workshop setting. Practical exercises to carry out with stakeholders and support materials to run the training provide further guidance and support. At the beginning of each Step there is a checklist which highlights the prerequisite knowledge and preparations necessary for completing the Step based on each basin's

entry point into this process, which will depend on several factors:

**Basin context:** where the basin is in terms of development – are there investment projects in the pipeline, will they impact different stakeholders, what are the benefits available to be shared for these plans?

**Political landscape:** are there political tensions between countries, stakeholders, or parties? How comfortable are the different stakeholders to come together to take about basin development? Are there sensitivities?

**Stakeholders:** what knowledge and capacities do the relevant stakeholders have? What are the desired outcomes of benefit sharing?

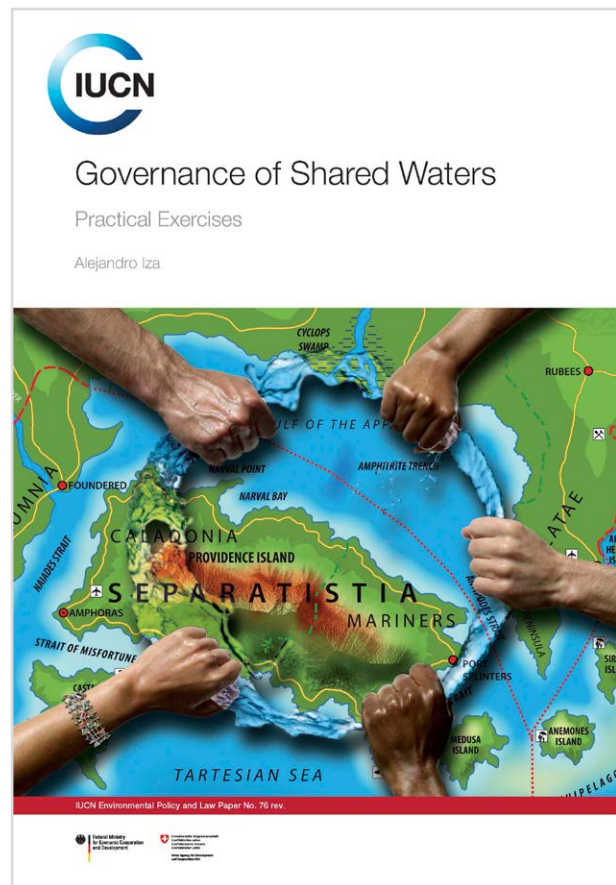
**Information availability:** the quality of information available will determine how far you can go with the assessment of basin interventions, construction of alternative scenarios and the economic quantification of costs and benefits.

As much as possible, this training package is designed to be flexible in its use, responding to the variety of basin contexts, needs and desired outcomes of both practitioners and stakeholders. Therefore, please adapt this guide to fit the

context in which you are working, whether it be by adjusting the fictitious scenarios or taking more time on a particular step in the process. This guide is a 'living document' and will be iteratively improved through learning by doing. Benefit sharing is highly contextual and complex and therefore continued learning through implementation will help us further expand the evidence base to inform tools like this guide.

IUCN has piloted this methodology in the the Sio-Malaba-Malakisi (SMM) - a sub-basin of the Nile Basin shared between Kenya and Uganda and the Meghna Basin shared between India and Bangladesh. Further roll out is planned in the Mano River Basin in West Africa as well as basins in South and Central America.

Ultimately, this guide presents is a way to take conceptual approaches into practical application through a capacity development about benefit sharing processes in river basin management.



# Key principles underpinning benefit sharing

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The following key principles are essential and integral to the benefit sharing methodology, underpinning both theory and practice. These principles should be adhered to when working through the Six-Step benefit sharing process outlined in the next section.



## Creating an enabling environment for inclusive stakeholder engagement, participation and decision-making

The benefit sharing process upholds inclusive decision-making by engaging and paying attention to the voices of diverse groups (and forms of knowledge), that are socially and culturally appropriate, and taking into account power dynamics within and between groups. Rights-holders and stakeholders have access to information concerning the environment and natural resources and furthermore, have the capacities and support they need to participate in decision-making, including through

appropriate representation. In particular, the process proactively engages with groups at risk of marginalisation such as women, youth and indigenous populations. In turn, any decisions made take into account the views expressed through transparent and participatory consultation processes and where necessary, free, prior and informed consent is secured and maintained for decisions concerning indigenous peoples and other customary rights-holders, regarding their lands or their resources.



## Practising multi-level governance

By strengthening water governance capacity at multiple levels linkages and synergies can be maximised between high level agreements and local level ones, in a dynamic process. This enables decisions to be taken at the lowest possible level appropriate to the social and ecological systems being governed, with particular attention to empowering the roles and authority of local communities in water governance. At the transboundary level, while cooperation

operates under the ultimate authority of sovereign States, it is important that actors<sup>1</sup> involved in or affecting water governance at different levels cooperate and coordinate to ensure coherent strategies and management practices using both formal and informal mechanisms. Multi-level governance should build on existing institutions, enable consultative, jointly-owned decisions, and facilitate multi-stakeholder negotiations of benefit sharing agreements.

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<sup>1</sup> Including municipalities, provinces, civil society and private sector.





## Sustainable and Equitably Shared Resources

Stakeholders responsible for water resources management need to have the necessary resources to carry out sustainable management and governance activities, be it financial, both in terms of revenue or livelihoods, but also in terms of improved capacity and access to information and technology. The equitable sharing of the benefits generated from water resources provides incentives to protect and sustainably manage these resources. Where losses are incurred due to restrictions imposed

to safeguard the resource base appropriate measures should be taken to minimise and/or compensate the losses. This echoes the Convention on the Law of the Non-navigational Uses of International Watercourses Adopted by the General Assembly of the United Nations on 21 May 1997, which highlights the key concepts of equitable and reasonable utilisation, not inflicting harm, and achieving win-win outcomes for river basin management and governance systems.



BRIDGE Training Workshop in Quito, Ecuador © IUCN/Diego Jara

# The Six Steps Benefit Sharing Process

## FICTIONAL BASIN FACTSHEETS AND MAPS



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- United Nations Economic Commission for Europe, UNECE, 2015: Draft policy guidance note on identifying, assessing and communicating the benefits of transboundary water cooperation. ECE/MP.WAT/WG.1/2015/4 [http://www.unece.org/fileadmin/DAM/env/documents/2015/WAT/06Jun\\_24-25\\_IWRM\\_Geneva/ECE\\_MP.WAT\\_WG.1\\_2015\\_4\\_Benefits\\_policy\\_guidance\\_ENG.pdf](http://www.unece.org/fileadmin/DAM/env/documents/2015/WAT/06Jun_24-25_IWRM_Geneva/ECE_MP.WAT_WG.1_2015_4_Benefits_policy_guidance_ENG.pdf)



United Nations Economic Commission for Europe, UNECE, 2015., Policy Guidance Note on the Benefits of Transboundary Water Cooperation Identification, Assessment and Communication [https://www.unece.org/fileadmin/DAM/env/water/publications/WAT\\_Benefits\\_of\\_Transboundary\\_Cooperation/ECE\\_MPWAT\\_47\\_PolicyGuidanceNote\\_BenefitsCooperation\\_1522750\\_E\\_pdf\\_web.pdf](https://www.unece.org/fileadmin/DAM/env/water/publications/WAT_Benefits_of_Transboundary_Cooperation/ECE_MPWAT_47_PolicyGuidanceNote_BenefitsCooperation_1522750_E_pdf_web.pdf)

USAID (2009) *Guidelines and procedures for resources allocation and sharing of benefits in transboundary river basins: Okavango Integrated Water Management Project* [https://pdf.usaid.gov/pdf\\_docs/PNADU394.pdf](https://pdf.usaid.gov/pdf_docs/PNADU394.pdf)

Vörösmarty, C.J., Pahl-Wostl, C., Bunn, S.E., Lawford, R., (2013). Global water, the Anthropocene and the transformation of a science. *Curr. Opin. Environ. Sustain.* 5, 539–550.

Winston Yu, “Benefit Sharing in International Rivers: Findings from the Senegal River Basin, the Columbia River Basin, and the Lesotho Highlands Water Project”, World Bank AFTWR Working Paper 1, 2008 Available from [documents.worldbank.org/curated/en/2008/11/10019058/benefit-sharing-international-rivers-findings-senegal-river-basin-columbia-river-basin-lesotho-highlands-water-project](https://documents.worldbank.org/curated/en/2008/11/10019058/benefit-sharing-international-rivers-findings-senegal-river-basin-columbia-river-basin-lesotho-highlands-water-project)





Victoria Falls on the Zambezi River, border between Zimbabwe and Zambia © Shutterstock/Eva Mont



# STEP 1 – Identifying stakeholders and mapping interests and influence



## Checklist – What do I need to conduct this step?

- Familiarise yourself with the benefit sharing concept and the six-step approach.
- Review the further reading section to ensure a good level of comfort with the materials.
- Consider the different elements of the basin's entry point and determine any gaps in information that need filling.
- Review in advance the list of stakeholders you will work with in the workshop, in order to better understand your group and group dynamics. This will help when working through the fictional case study materials.
- Prepare PowerPoint slides for participants to provide a background to benefit sharing and the process, contextualising this step (see prepared template slides).
- Gather flip charts and post-it notes for participants to write down the stakeholders and move around for the sorting into typologies and identification of interest and influence.

## Objectives

This step covers how to identify and map stakeholders that will be *impacted positively or negatively* by any basin developments, planning, and management and the associated benefits derived from different investment and development projects/scenarios. Stakeholder identification and mapping interests/influence is a key part of building an equitable cooperation process, as it ensures that all relevant stakeholders are included from the beginning. Meaningful inclusion of stakeholders is more likely to result in long-term sustainability in cooperation efforts. Reviewing stakeholder groups' interests and influence is a good way to better understand

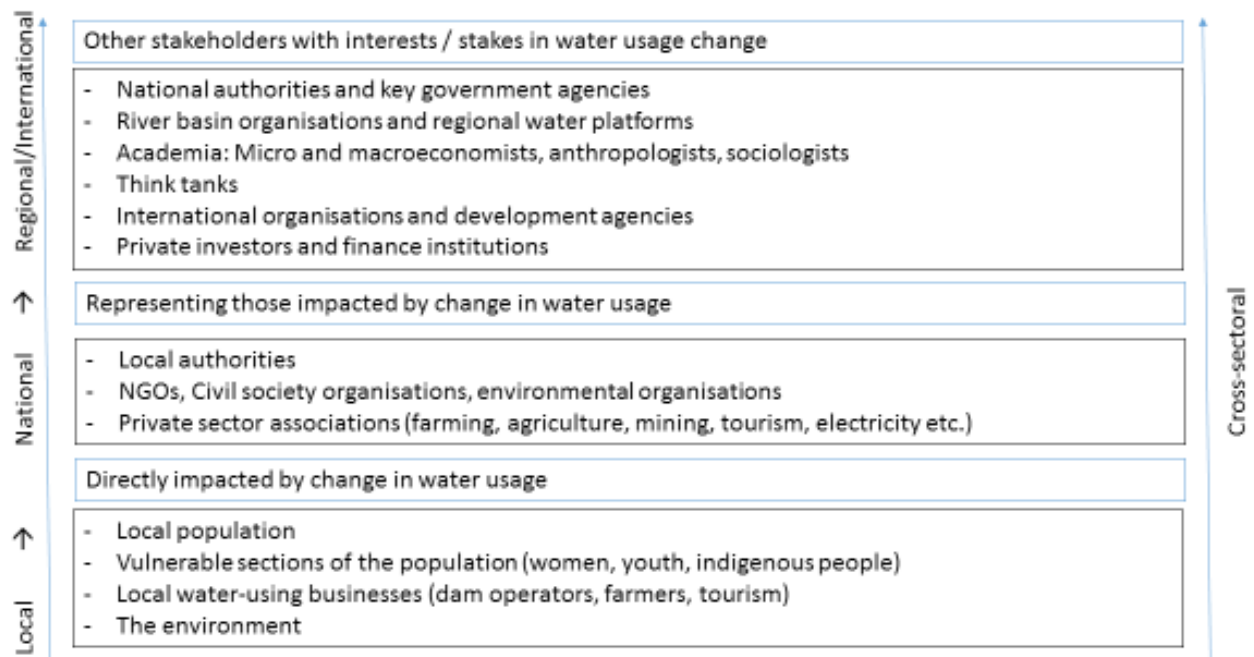
the power dynamics in the basin and associated potential challenges and solutions to sharing benefits. Thus it is important to carefully carry out this first step before pursuing any further dialogue on benefit sharing.

It is critical to ensure that subsequent benefit-sharing discussions are as inclusive and participatory as possible, with a diversity of stakeholders' voices at the table. This mapping process should encompass a variety of sectors and disciplines (see Table 1 below), to ensure all possible ramifications are taken into account and decision makers have a full picture of basin



dynamics (Sadoff et al., 2008). In conventional transboundary water resources management, the main responsibility for governance and management tends to lie with national

authorities, but it has been proven crucial to include both local authorities and other stakeholders in these processes.



**Table 1:** Stakeholder mapping by scale - Adapted from Sadoff et al. (2008) SHARE

## Desired outcomes and outputs

- Participants become familiar with the concept of benefit sharing in water governance and the six-step approach, situating Step 1 within the process.
- Using the fictional case study materials and the guidance templates provided, participants are able to interpret the outcomes of the stakeholder interests and influence mapping to feed into Steps 2 and 3.
- Participants become more aware of stakeholder dynamics, especially power imbalances, learning to identify and consider vulnerabilities of stakeholder groups.
- Participants cultivate a safe space for dialogue and exchange, which can enable basin stakeholders to develop or strengthen relationships and trust.

## Facilitation process

In a training workshop, facilitated stakeholder mapping using fictional case study information can help to build relationships between, and trust among, the participating stakeholders. If the basin stakeholders are not very familiar

with each other or they have never been together in the same room, it can be a useful exercise to do as an ice breaker, to build dialogue and also expose potential areas of agreement/disagreement among them. Since the group

work materials are all fictional, it creates a safe space for dialogue, removing the realities of potentially sensitive topics in the basin while still allowing room for discussion. It can be useful to mix up the stakeholders into groups

with representatives from various sectors, so that they will all have an opportunity to discuss how others see the fictional basin and are affected by decisions made.

## Identifying stakeholder groups

The practitioner can use the template PowerPoint slides, which walk the workshop participants through a brief overview of why a stakeholder mapping exercise needs to be undertaken to support a benefit-sharing process, and then take the participants through

a fictional mapping exercise in small groups. After each exercise, it's important to let participants report back and have a space for questions and discussions – which can be kept to between 10-20 minutes.

### Short exercise in pairs/plenary (suggested time 15 mins):

**Question 1 – Ask the participants: “Who are the relevant stakeholders?”** This can be done with the participants in pairs for 5-10 minutes, just to get them thinking about the different types of stakeholders. Stakeholders can be individuals, groups, organisations, departments, or networks. They can relate to the question being examined either positively or negatively and have high or low influence on the outcome. Participants can then be asked to call out answers, and you can record them on a flip chart or directly into a PowerPoint slide.

Possible prompts to elicit answers:

- Those who derive benefits, or incur impacts, from the use of the water in the basin and specifically from proposed basin development(s)
- Those who represent water users' interests
- Those who are particularly vulnerable/affected by the outcomes
- Representatives from different sectors (agriculture, mining, environment, etc.)
- Stakeholders from local-to-national levels

## Categorizing stakeholders

The next stage in the process is to take participants through an explanation of how to organize stakeholders into different categories. Many different typologies have been identified through various stakeholder identification and mapping exercises; these can include sectoral stakeholders, such as energy, water, agriculture, and environment, or government authorities at national and sub-national levels. Below,

we provide a method of grouping stakeholders that can be used in benefit sharing and is helpful for gathering the right information to feed into Steps 2 and 3. If the list becomes too long, stakeholders should be clustered into groups, so that it is still possible to map stakeholders in a clear and coherent way against interest and influence. The key with this exercise is to have

an accessible and simple grouping of stakeholders to help conduct Step 3.

A framework for grouping stakeholders impacted by change in water usage and their influence can be created by clustering stakeholders into three categories: **a) directly impacted, b) representing those impacted, and c) other stakeholders with interests/stakes in water usage changes.**

- **Directly impacted stakeholders** are those who are directly impacted by a decision to alter water usage in a river basin. This includes the local population, especially women, youth, and indigenous peoples; water-using local businesses; and the environment (which is included here as a 'stakeholder' in order to give it a voice). These stakeholders have livelihoods directly relying on basin resources and, for them, a change in water usage in the basin could potentially mean decreased access to or an abundance of water for household use, farming, tourism-related activities, or fish migration.
- Category two includes **stakeholders who represent those impacted by water usage change.** This could include local authorities, non-governmental organisations (NGOs), river basin organisations (RBOs), private sector associations, and indigenous people's organisations/ associations. These stakeholders often have more experience negotiating benefit-sharing issues and are often involved in facilitating the process of engagement; they might also have more influence on decision-making authorities.
- The third category covers **other stakeholders with interests/stakes in changes in water usage.** These stakeholders, who are often not locally based, include

national authorities and key government agencies with decision-making powers, and international organisations, development agencies, and private investors with the power to influence decision makers. Academia and think tanks are also included in this category, as the information they provide is often used to impact the decision makers.

***BE CAREFUL: The typologies are context-specific!***

Creating the typologies can be done by grouping the stakeholders by sector, or by type, e.g., NGOs (national or international), development partners, businesses, finance sector, small-scale farmers/fishers, etc. Special attention to the stakeholder grouping is required, as an oversimplified categorization of stakeholders may affect the results of the benefit identification and the assessment of opportunities in the later steps in this training package. On the other hand, having too many stakeholders leading into the next steps will make the exercises more time-consuming and complex. Other considerations are also important, such as upstream-downstream interactions, as well as the range of stakeholders that could fall under one group if grouped by sector. For example, a big agribusiness and small-scale farmers will most likely not have the same level of interest and influence, but if grouped by sector they could incorrectly fall into the same 'type'. The same would be true for a big hydro-power plant and a small hydro-power plant, as they would have different impacts, influence and interests, and associated costs – it all depends on the context.

In addition, depending on the type of issue you want to address in the benefit-sharing process and the availability of time to conduct the exercise, you may want to group some



stakeholders together, to simplify the process. We recommend thinking comprehensively in advance about the relevant stakeholders that should be considered as pivotal to the basin scenario, as well as the main groups affected by any planned project, so that the assessment can realistically reflect the main potential benefits and also costs to different stakeholders.

This will be particularly useful for designing compensation alternatives for stakeholders that are impacted by a basin intervention, and may be a good way to identify a compensation scheme that can be part of a desired scenario in later stages of the benefit-sharing process.

### **Group Work Exercise 1 – Classifying stakeholders (suggested time 30 mins):**

Create groups, ideally with a mix of participants representing different stakeholders (or nationalities if in a transboundary basin context). Starting from the list of stakeholders generated during the previous exercise, groups will refine the list of relevant basin stakeholders, clustering them into categories as needed (this could be done according to sectors as well as sector of society, such as government, private sector, civil society, cooperatives/associations, etc.). These groups will then be classified as directly impacted, representing those impacted, or with interests/ stakes in water usage changes.

#### **Debriefing and report back (10 mins):**

Once the participants have finished the group work, ensure that you provide a space for feedback and debriefing to discuss any issues that may have come up.

### **Group Work Exercise 2 – Clustering stakeholders into typologies (suggested time 30 mins):**

Work with the participants to then cluster the stakeholders into groups or 'typologies' of stakeholders. Use the mapping of influence and interest to help guide this, as natural clusters might have formed during this exercise. You can leave the post-its mapped from Exercise 1 and simply get the participants to write up the groups/clusters on a flip chart next to the mapped stakeholders.

#### **Debriefing and report back (10 mins):**

Once the participants have finished the group work, ensure that you provide a space for feedback and debriefing to discuss any issues that may have come up.

## Mapping power and influence

The final component of the mapping process requires participants to look into the various stakeholders' priorities, interests, power, and influence. The identification of key stakeholder interests, reflected at different stages in management processes, is crucial to designing an

effective engagement strategy. Mapping power resources and interests can help in projecting possible patterns of engagement, including when and how to bring in different types of stakeholders. This can help with understanding who the external stakeholders are and

illustrates different trajectories in interest and power over the course of a management process. Understanding these dynamics enables better targeting of information to stakeholder categories, and ensures that engagement processes are efficient in reaching the right groups at the right times. This should be mapped at

the beginning of the process for each stakeholder to ensure inclusion, transparency, and diverse participation in decision-making processes. It is important to overlay different typologies for better understanding of stakes, power, and influence.

### **Short exercise in pairs/plenary (suggested time 15 mins):**

#### **Question 2 – Ask the participants: “What happens when some stakeholder groups are overlooked?”**

Asking this question continues the thought process among the participants after the various typologies of stakeholders have been presented. The question could be asked in plenary or in small groups, i.e., with the participants in pairs, for 5-10 minutes.

*Possible answers:*

- Stakes and interests can also be overlooked = benefits and impacts (costs) are overlooked
- The relative size of benefits and impacts may be overlooked
- Distributional impacts are not adequately assessed
- Results are less equitable
- There is less buy-in to the resulting agreement
- Disagreements/conflicts can arise
- Legitimacy of process may be questioned

It is important to spend some time discussing these inclusion/exclusion challenges and to focus on the long-term consequences of processes that disable or enable stakeholders to participate. Get the participants to consider why some stakeholders are more active and others are not. Often the enabling environment does not provide adequate engagement and participation options, or there are gaps in capacity that make it challenging for certain groups to meaningfully participate, including but not limited to financial restraints, time restraints, child care issues (particularly for women), and transportation restraints. Furthermore, institutional mandates can formally exclude actors from participating if their roles and responsibilities do not allow for or encourage active engagement.

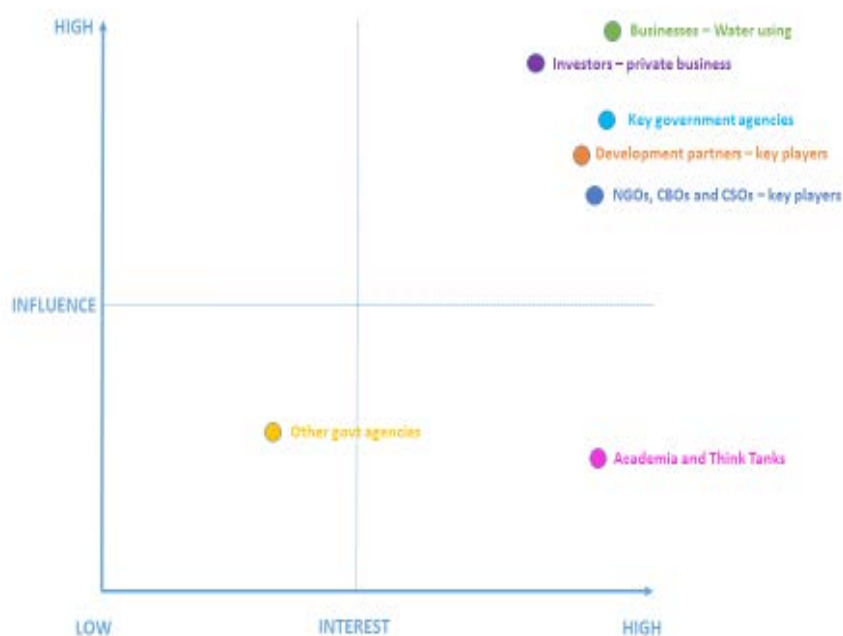
### Group Work Exercise 3 - Stakeholder interest/influence mapping (suggested time 60 mins):

Prepare one big piece of paper with the interest/influence matrix and ask the participants to take their post-it notes from the previous session and map each stakeholder according to their perceived power in the basin and their level of interest in the outcomes of governance and management decisions taken in the basin.

Questions that can be used to assess different stakeholder categories in terms of their potential contribution, power/influence, and interest in relation to different stages include:

- Does this group have broad relevance and representation at a local level?
- What is the perceived and likely degree of the group's impact?
- How much influence does the group have over management processes?
- What contribution (e.g., insight, data, and management capability) might the group make to the process and to management outcomes?

Please find an example below of stakeholders mapped by interest and influence.



### Debriefing and report back (15 mins):

Suggestions for issues to be discussed in plenary (or in groups again):

- Should all relevant stakeholders be included throughout the process of decision making around existing or new planned basin developments, or should they be included at different stages – planning, inception, implementation, closing, evaluation?
- How can we engage vulnerable groups – indigenous people, women, and youth – and what measures can be taken to ensure their informed participation?
- What would make the level of power and interest change for stakeholders? What would the drivers be? Think about the fictional case study, but also examples from other basins that you know of that are relevant here.
- Would you cluster the stakeholders differently after a further in-depth discussion about interest and influence?



## Helpful resources

Dore, J., Robinson, J., and Smith, M., eds. (2010). *Negotiate – Reaching agreements over water*. Gland, Switzerland: IUCN. [2010-006.pdf \(iucn.org\)](#)

Sadoff, C., Greiber, T., Smith, M., and Bergkamp, G. (2008). *SHARE – Managing water across boundaries*. Gland, Switzerland. <https://portals.iucn.org/library/sites/library/files/documents/2008-016.pdf>

WMO (2006). *Social Aspects and Stakeholder Involvement in Integrated Flood Management*. Geneva, Switzerland <https://www.gwp.org/globalassets/global/toolbox/references/social-aspects-and-stakeholder-involvement-in-integrated-flood-management-apfmwmgwpadpc2006-english.pdf>

WWF (2005). *Cross-cutting tool: Stakeholder analysis* [https://awsassets.panda.org/downloads/1\\_1\\_stakeholder\\_analysis\\_11\\_01\\_05.pdf](https://awsassets.panda.org/downloads/1_1_stakeholder_analysis_11_01_05.pdf)

# STEP 2 – Identifying the range of existing and potential benefits



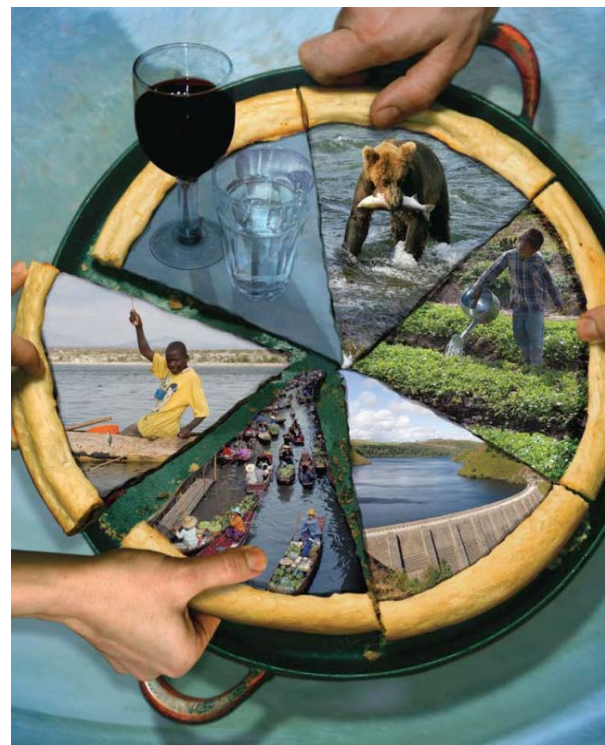
## Checklist – What do I need to conduct this step?

- Printed materials from the fictional case study.
- Prepared PowerPoint slides, to provide participants with a background on benefit sharing and the process, and contextualise this step (template slides are available).
- Stakeholder mapping outputs from Step 1.

## Objectives

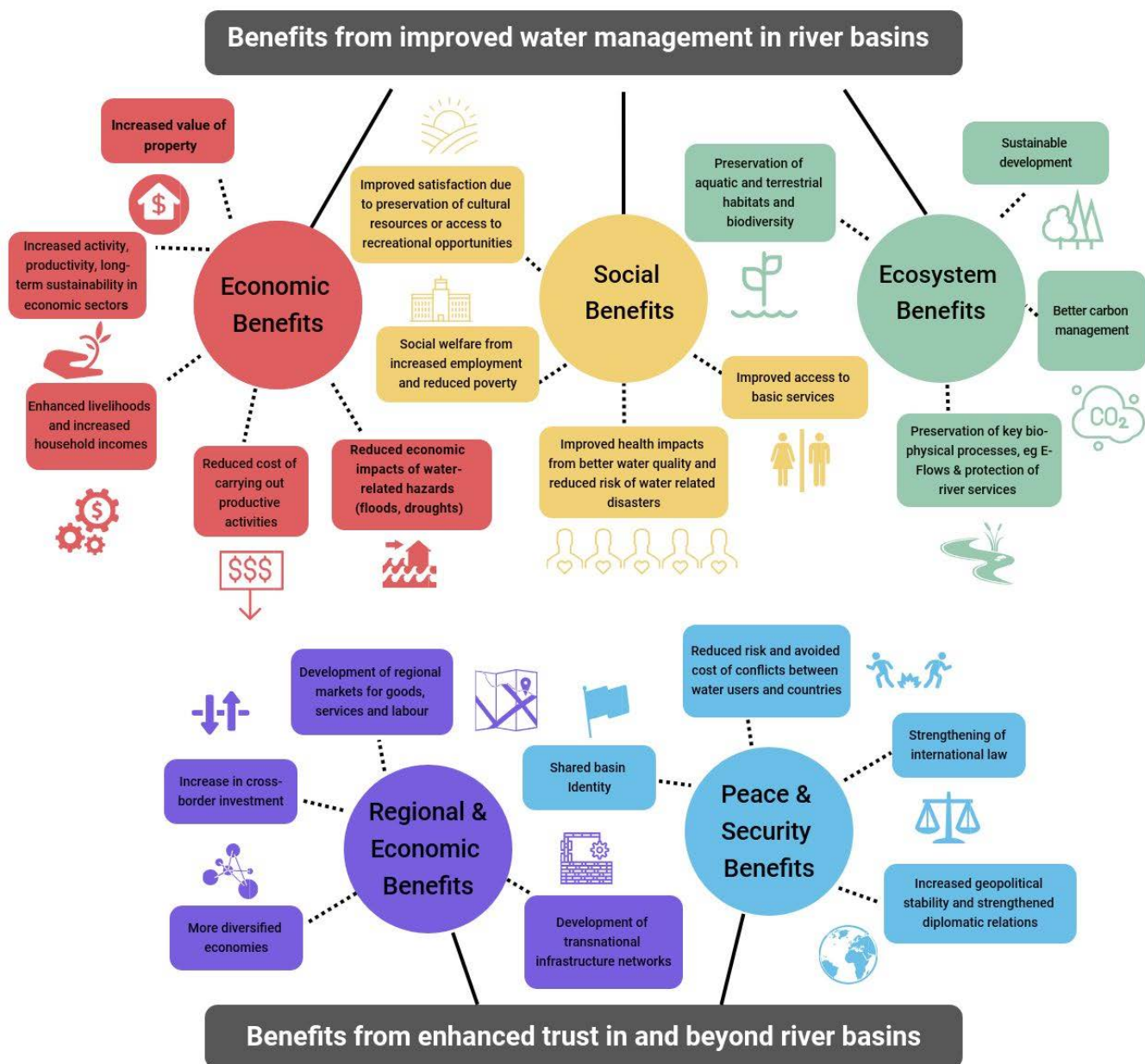
River basins offer different types of potentially shared benefits that extend far beyond the allocation of volumes of water to riparian parties or basin stakeholders. This step relies on the full identification of specific economic, social, environmental, political, peace, trade, and other benefits that can be derived from shared water use and from cooperation in a particular basin. Identifying benefits jointly with relevant stakeholders provides a more flexible cooperation framework and can increase possibilities for collaboration. A range of sectors should be represented in the process of identifying benefits, including agriculture, environment, forestry, finance, planning, fisheries, tourism, mining, hydropower, etc.

This step presents an overview of the types of benefits that equitable river basin management can provide and equips the trainer with practical steps to help stakeholders work through benefit identification and mapping exercises.



**Figure 3:** Illustration of various water users and uses – Sadoff et. al. 2008: SHARE

Sadoff and Grey (2002) established a conceptual framework to understand the multiple benefits that basins offer and that can be enhanced through cooperation. This typology has been widely used in IUCN's work and



knowledge products, including SHARE.<sup>1</sup> Most recently, it was included in the policy guidance on the benefits of transboundary cooperation for the Helsinki Water Convention, prepared by the United Nations Economic Commission for Europe (UNECE) Secretariat.<sup>2</sup> Building on Sadoff and Grey's work, and jointly adapted by IUCN and UNECE, the typology below presents a wide range of benefits, expanding the focus beyond water volumes and allocation:

- Economic and social benefits from the river
- Peace and security benefits from the river, such as:
  1. reduced risk and avoided cost of conflicts between water users
  2. improved cross-sectoral coordination around water and land management, and around water, food, and energy security
  3. shared basin identity

1 See also, Sadoff and Grey (2002). Beyond the river: the benefits of cooperation on international rivers, *Water Policy* 4 389-403.

2 UNECE (2015) *Policy Guidance Note on the Benefits of Transboundary Cooperation* [https://www.unece.org/fileadmin/DAM/env/water/publications/WAT\\_Benefits\\_of\\_Transboundary\\_Cooperation/ECE\\_MP.WAT\\_47\\_PolicyGuidanceNote\\_BenefitsCooperation\\_1522750\\_E\\_pdf\\_web.pdf](https://www.unece.org/fileadmin/DAM/env/water/publications/WAT_Benefits_of_Transboundary_Cooperation/ECE_MP.WAT_47_PolicyGuidanceNote_BenefitsCooperation_1522750_E_pdf_web.pdf)



- Environmental benefits to the river
- Political and peace benefits because of the river
- Regional trade benefits stemming from greater trust among states beyond the river.

The typology aims to expand on both the traditionally understood benefits of water

management within a basin (economic, social, environmental) to include 'non-traditional' benefits derived from enhanced trust in and beyond the basin, such as regional cooperation benefits and peace and security benefits. The diagram below captures this range of benefits and provides a description of each one.

## Desired outcomes and outputs

- Participants are familiar with benefit sharing in water governance and the IUCN six-step methodology, situating Step 2 within this process.
- Using the fictional case study materials and guidance templates provided, participants map and discuss existing and potential water and basin benefits, coming to a deeper understanding of broader water benefits and how these benefits affect different stakeholder groups.
- Participants continue to build trust through exchange and dialogue and cultivate a better understanding of different perspectives.
- Stakeholders are prepped for Step 3, where they will examine opportunities to enhance benefits.

## Facilitation process

This step can be completed alongside Step 1. The most important thing is that both Steps 1 and 2 are completed before moving on to Step 3.

Using the PowerPoint template slides, the practitioner can walk the participants through the broader conceptualisation of benefits by providing an overview of the theory above, with key considerations when thinking about water benefits, for example:

- Economic, environmental, political, and social dimensions
- Diverse economic sectors: energy, agriculture, aquaculture, industry
- Trade and regional integration

- Compensation for pollution, impacts, ecosystem conservation, and restoration
- Non-consumptive benefits: fisheries, navigation, recreation, habitat for biodiversity, hydropower generation.

Importantly, the practitioner needs to highlight the difference between focusing only on water volumes and including broader benefits from water, noting that sharing benefits, rather than focusing on volumes of water for allocation, can provide a richer dialogue to encourage and enable cooperation. Greater recognition of the role of the river not just through volumes can open up the space for better understanding of water use and impacts, since volumes do not easily relate to the greatest impacts or highest economic returns.

It should be stressed that benefits (as well as associated costs) operate at all levels, from local to national to transboundary. At the same time, it is necessary to understand the goods and services provided by rivers and wetlands, as well as the relevant set of ecosystem

services that regulate water quantity and quality in a particular basin.

Once this theoretical overview is provided, participants can then be led through the following group work exercises, focused on mapping existing and potential benefits.

### **Group work Exercise 1 – Mapping existing benefits (suggested time 20 mins):**

Ask participants to map the existing benefits using the table on slide 6 in the PowerPoint template slides.

### **Report back (10 mins):**

Get each group to briefly report back on their work.

### **Group work Exercise 2 – Mapping potential benefits (suggested time 45 mins):**

Ask participants to map the potential benefits using the table on slide 7 in the PowerPoint template slides. These potential benefits can be related to the possible developments in the basin. Stakeholders are welcome to discuss real potential developments for the sake of the exercise, or suggested options can be presented as a way to get people thinking through the range of benefits under different future scenarios.

### **Debriefing and report back (20 mins):**

Ask the participants to report back briefly on their group work exercises then work through some questions in plenary:

Which stakeholder groups benefit from existing and potential benefits? Equally, which groups don't benefit or stand to lose?

What is the process for allocating costs and benefits?

### **Group work Exercise 3 – Linking stakeholders to benefits (suggested time 45 mins):**

Link the stakeholder mapping outputs from Step 1 to the identified potential benefits – see template on slide 9. This exercise is a good way to get participants to think through the distribution of benefits between different stakeholder groups and helps to prepare for Step 3.

### **Report back (10-15 mins):**

Get each group to briefly report back on their work.

## Helpful resources

IUCN (2019a). Report, 1<sup>st</sup> meeting of Meghna Advisory Group (MAG), 17-19 January 2019 (Shillong, India).

IUCN (2019b). Report, Meghna research Collaborators Meeting (NESAC, Shillong, June 2019).

Sadoff, C., Greiber, T., Smith, M., and Bergkamp, G. (2008). SHARE - Managing water across boundaries. Gland, Switzerland. <https://portals.iucn.org/library/sites/library/files/documents/2008-016.pdf>

UNECE (2018). *Identifying, assessing and communicating the benefits of transboundary water cooperation* <https://unece.org/environment-policy/publications/identifying-assessing-and-communicating-benefits-transboundary>



# STEP 3 – Building benefit-enhancing scenarios



## Checklist – What do I need to conduct this step?

- Step 1 (stakeholder mapping) and Step 2 (benefit identification) need to be completed before this step, with the associated outputs to hand. This ensures a good level of comprehension of benefit sharing by both the practitioner and the stakeholders, to be able to embark on an exercise of building benefit-enhancing scenarios.
- Prepared PowerPoint slide deck that includes the run through of the fictional case.
- Copies of fictional case study materials.

## Objectives

This step involves the joint identification of benefit-enhancing scenarios. It is important that Steps 1 and 2 have been completed prior to engaging in this step. Its underlying premise is that a given water-related investment project or intervention will have differentiated impacts across the groups of stakeholders that share water resources in a basin and different impacts on water ecosystems. Step 3 is designed to help stakeholders jointly qualitatively analyse whether a particular water management and development-related project, or set of projects, has a positive, neutral, or negative impact on a range of stakeholder groups, and how benefits to stakeholders can be enhanced through cooperation. It

also helps in visualizing alternative interventions or new projects that can change the allocation of benefits and costs in the basin. This allows stakeholders, through scenario development and analysis, to develop a more in-depth and shared understanding of the trade-offs involved in choosing certain projects over others or certain combinations of projects, using a cross-sectoral cooperation perspective. The resulting stakeholder-validated set of scenarios can then be used to motivate an economic estimation of options (Step 4). Opportunities and mechanisms for benefit sharing are context-specific and must be adapted to the specific social, political, economic, and environmental context of the basin.

## Background

Water has been and still is generally allocated according to historical distribution rights, with no consideration of resource productivity or any prioritisation of social-welfare benefits

(Berbel et al., 2018). The benefit-sharing process differentiates itself from simple allocation of water quantities by considering the allocation of benefits of water uses seen in Step 2.

Parties negotiating a benefit-sharing agreement are not usually interested in the water itself, but rather the economic opportunities and ecosystem services that can be obtained and enhanced through a shared management strategy for the basin.

Optimising water allocation and associated benefits is paramount in a global context of increasing pressure on the world's freshwater resources (Berbel et al., 2018), as it helps to:

- Reduce pressure on water resources and establish sustainable abstraction rates;
- Promote resource efficiency and support a shift towards a greener economy and climate-resilient strategies for water-dependent sectors;
- Improve aspects concerning the economic, environmental, and social situation of rural areas;
- Contribute to goals of improving economic performance through jobs, growth, and investment; and

- Keep ecosystems healthy and secure the benefits derived from them through the maintenance of environmental flows.

Building benefit-enhancing scenarios using fictional case study materials allows participants to explore the inherent trade-offs in water allocation and associated benefits by considering different basin interventions/developments. Looking at how water is used under different development scenarios helps to identify the potential benefits, co-benefits, and costs to different stakeholders.

*A word of caution:* Be prepared – conflict or misrepresentations may arise throughout the exercises. Remembering the interest/influence stakeholder matrix from Step 1, make sure all voices are heard and taken into account. Give special attention to ensuring that vulnerable groups are able to state their positions at the negotiating table (for more on the process of negotiation, see Step 5).

## Desired outcomes and outputs

- Participants understand the concept of benefit sharing and the potential for basin developments to bring a range of benefits and impacts to a range of stakeholders. They also understand that there are inherent trade-offs in benefit sharing, but that win-win scenarios are possible.
- Participants continue to build trust through exchange and dialogue, enhancing understanding of basin dynamics and perspectives of different stakeholder groups.
- Participants identify alternative basin development scenarios where benefits are enhanced through cooperation, which will feed into subsequent steps.

## Facilitation process

A typical dialogue for building benefit-enhancing scenarios requires time and significant preparation on the part of its convenors. Some of these exercises involve individual work, others break-out groups, and still others, plenary sessions.

The practitioner needs to walk the stakeholders through the description of the fictional case and then the scenarios and the mapped benefits/costs in the benefit and opportunities assessment – using the pre-prepared PowerPoint slides and templates. To begin with, use the maps to ‘set the scene’ and introduce the fictional case.

Present the fictional maps and include descriptions of the geography, climate, social composition, biodiversity, and existing livelihoods (fisheries, agriculture, tourism, mining, hydropower, etc.) in the basin. Note that the fictional case could be adapted to include some of the challenges experienced in your basin/region. Also, remember that in a fictional case it is easier to simplify the exercise for learning, so it’s important to remind participants that in a real-life situation, the complexities will be much higher in terms of assessing both benefits and costs.

Next, the practitioner needs to introduce the fictional scenario by getting participants to imagine the building of a hydropower dam in the basin and to describe the sectors the dam will benefit and those it will challenge. For example, hydropower, tourism, and urban sectors in the fictional country will derive benefits in the form of electricity generated. However, the

costs associated with the reduced flows due to the dam in this fictional case will be felt by:

- The hydropower sector in the downstream country;
- The tourism sector in the downstream country, through reduced sediment supply to beaches;
- The agricultural sector in the upstream country; and
- Riverine ecosystems (environment) in both countries.

The main objective at this stage is to realise that there are other possible development scenarios for the basin, and that cooperation and negotiation could enhance the range of benefits for all relevant stakeholders. Understanding the connections between power relationships and the distribution of benefits and costs from water-related interventions can provide better insight towards sustainable and more equitable development. Qualitative assessment is important for the scoping and identification of relevant services and for identifying which stakeholders benefit from or bear the costs of these services. It can also help to prioritise more in-depth research and identify socio-cultural values, and bring together stakeholders to think about the implications of water intervention decisions.

Once the overview of the fictional case and different cooperation scenarios have been presented, the participants are then invited to carry out the same exercise in group work to familiarise themselves with the tool.



## Group work Exercise 1: Populate the spreadsheet (suggested time 2 hours):

Divide the participants into groups of 5-7 people. Each group should be given a blank benefit and opportunities assessment template to fill in. Prepare the participants by asking them to bear in mind the following points when working through the fictional case exercise:

Water use activities may have positive or negative impacts (externalities) on other water users.

A first step consists of examining the balance of positive and negative impacts across different activities/sectors in a shared basin.

How can joint changes in water management enhance benefits for the largest number of stakeholders, and in the transboundary case for the riparian countries?

Then, using the prepared Excel spreadsheet template in the materials pack, get participants to start inputting the benefits and costs and the sectors that remain neutral (not concerned) by the infrastructure building activity (as per this fictional case). See the example below.

**QUALITATIVE IMPACTS WITH NO COOPERATION**

Water use activities	Stakeholders												
	Hydro K	Hydro A	Agri K	Agri A	Tourism K	Tourism A	Rural K	Rural A	City K	City A	Mining A	Envt K	Envt A
Hydropower production at Edara Dam	+	-	-	-	+	-	-	-	+	-	-	-	-

Next, prompt them to add additional water interventions to the Excel sheet for an overview of 'best' and 'worst' options, as per the example below and available on the PowerPoint slide templates. Try to incorporate these interventions into the matrix using an upstream-downstream logic, to reflect the interdependence and cause-effect linkages of all water-related activities.

The impacts from each water basin intervention on each stakeholder – the cell scores – can be analysed on a scale from positive (+) to neutral (0) to negative (-) impact. Finally, get the participants to sum the impacts per water intervention (rows) and impacts per stakeholder cluster (columns) to understand the net number of negative impacts.

Option: You can also add the net number of impacts per country when dealing with transboundary basins.

**QUALITATIVE IMPACTS WITH NO COOPERATION**

Water use activities	Stakeholders												Net number of impacts per project	
	Hydro K	Hydro A	Agri K	Agri A	Tourism K	Tourism A	Rural K	Rural A	City K	City A	Mining A	Envt K		Envt A
Hydropower production at Edara Dam	+	-	-	-	+	-	-	-	+	-	-	-	-	-2
Hydropower production at Upper Sambara Dam	-	+	-	-	-	-	-	-	-	+	+	-	-	-3
Expansion of Papyrus Dam for hydropower	-	-	-	-	-	-	-	-	-	-	-	-	-	-3
Mining in Tarambana Mountains	-	-	-	-	-	-	-	-	-	+	+	-	-	-3
Conservation in Chimeraas	-	-	-	-	+	-	-	-	-	-	+	+	-	-1
Conservation in Gloria	-	-	-	-	-	+	-	-	-	-	-	+	+	0
Net number of impacts per stakeholder	0	0	-2	-3	1	-1	-2	-2	0	1	1	-2	-3	

Aggregated net number of negative impacts: **Konfundesia: -5**  
 As a group, stakeholders in Konfundesia incur a net number of 5 negative impacts

**Akinonia: -7**  
 As a group, stakeholders in Akinonia incur a net number of 7 negative impacts

Cells in the matrix that score benefits are marked with a '+' sign and coloured green. Costs or negative impacts are marked with a '-' sign and coloured red. Neutral impacts are coloured yellow. This way, when comparing different sets of projects or concessions granted through negotiation, it is easier to identify the development scenario that has the most positive outcome (the greener one).

## Group work Exercise 2: How to enhance benefits through cooperation (suggested time 4 hours):

In the same groups, get the participants to consider stumbling blocks to cooperation and discuss cooperation alternatives, such as selling the energy from the existing hydropower dam to nearby urban cities and mining activities, thus avoiding the need to build a second hydropower dam on the river. Include the changed benefits/costs in the Excel sheet and compare and contrast the number of beneficiaries and those being negatively affected. The objective is to identify measures that can enhance the benefits to the most stakeholder clusters – to turn the matrix as green as possible! We suggest spending some time during the exercise identifying how different stakeholders may be affected by the proposed alternatives and identifying tension points, then going on to discuss the measures that enhance benefits the most (i.e., that are most beneficial to the most inclusive group of stakeholders).

**QUALITATIVE IMPACTS WITH BENEFIT SHARING**

Water use activities	Stakeholders														Number of net impacts per project
	Hydro K	Hydro A	Agri K	Agri A	K	A	Rural K	Rural A	City K	City A	A	Env K	Env A	Cult A	
Hydropower production at Edara Dam with reoperation	+	-	-	-	+	-			+	+	+	-	-		0
Hydropower production at Upper Sambara Dam															0
Expansion of Papyrus Dam (w/improved operations)		+		-		+			+						2
Mining in Tarambana Mountains with pollution mitigation					+		+	+			+	+	+	+	7
Conservation in Chimaeras				-	+						-	-	+	+	-1
Conservation in Gloria	-	-				+							+	+	0
Wind Farm in Sumerostan Peninsula										+	+			-	1
Net number of impacts per stakeholder	0	-1	-1	-2	3	1	1	1	2	2	2	1	1	-1	
Aggregated net number of impacts:	<p><b>Konfundes</b> 6      As a group, stakeholders in Konfundesia incur a net number of 2 positive impacts</p> <p><b>Akinonia</b> 3      As a group, stakeholders in Akinonia incur a net number of 2 positive impacts</p>														

## Debriefing and report back (40 mins):

Ask the participants to present the highlights from their group discussions – the challenges and the solutions. This can be a helpful exercise, in particular for the practitioner, as it will provide insights into how the stakeholders in the room approached the discussions and why they came to the decisions they made. This can enrich the practitioner’s understanding of stakeholders’ relationships and decision drivers.

This is also the time to further discuss, if desired by the stakeholders, the next steps and information needed to progress into carrying out a real application using the benefit and opportunities assessment exercise.

## Helpful resources

Berbel, J., Schellekens, J., Expósito, A., Mar Borrego, M., and Montilla-Lopez, N. (2018). Review of alternative water allocation options. Deliverable to Task A4B of the BLUE2 project ‘Study on EU integrated policy assessment for the freshwater and marine environment, on the economic benefits of EU water policy and on the costs of its non-implementation’. Report to the Directorate General for the Environment of the European Commission. [https://ec.europa.eu/environment/blue2\\_study/pdf/Task%20A4B%20Final%20Report\\_CLEAN.pdf](https://ec.europa.eu/environment/blue2_study/pdf/Task%20A4B%20Final%20Report_CLEAN.pdf)

Ivanić, K-Z., Stolton, S., Figueroa Arango, C., and Dudley, N. (2020). Protected Areas Benefits Assessment Tool + (PA-BAT+): A tool to assess local stakeholder perceptions of the flow of benefits from protected areas. Gland, Switzerland: IUCN. xii + 84 pp.

Neugarten, R.A., Langhammer, P.F., Osipova, E., Bagstad, K.J., Bhagabati, N., Butchart, S.H.M., Dudley, N., Elliott, V., Gerber, L.R., Gutierrez Arrellano, C., Ivanić, K.-Z., Kettunen, M., Mandle, L., Merriman, J.C., Mulligan, M., Peh, K.S.-H., Raudsepp-Hearne, C., Semmens, D.J., Stolton, S., Willcock, S. (2018). Tools for measuring, modelling, and valuing ecosystem services: Guidance for Key Biodiversity Areas, natural World Heritage Sites, and protected areas. Gland, Switzerland: IUCN. x + 70pp.

UNECE (2018). *Identifying, assessing and communicating the benefits of transboundary water cooperation* <https://unece.org/environment-policy/publications/identifying-assessing-and-communicating-benefits-transboundary>



# Step 4 – Estimating costs and benefits from future scenarios



## Checklist – What do I need to conduct this step?

- Steps 1, 2, and 3 need to be completed prior to this step, with the associated outputs to hand.
- Prepared PowerPoint slide deck that includes the run through of the fictional case.
- Project factsheet with economic data.
- Benefit and opportunities assessment completed from Step 3 (formulas incorporated).

## Objectives

The underlying assumption in Step 3 is that any water-related intervention in a watershed will produce changes in the connected ecosystem services that can be delivered. This can have either positive, neutral, or negative effects on other water users, so-called externalities. The core issue is to find the appropriate indicators/parameters to make externalities visible and to reflect properly on who will be impacted positively or negatively. Therefore, Step 4 intends

to provide further input to the negotiation and decision-making process by, where possible, quantifying the benefits and costs from the scenarios identified in Step 3. This step also covers the key concepts associated with quantifying benefits and costs, and stimulates dialogue among participants on both the potential and the limitations of applying economic tools and other quantification methods for water basin development scenarios.

## Background

The exercise of assigning value to goods or services is often relative to both individual and societal preferences and will vary between geographic locations and contexts. The value of a good or service is used to compare it to another good or service that society considers as equivalent, and to make a decision about allocation of resources (i.e., which project will

be funded). It can be estimated quantitatively in biophysical units (e.g., m<sup>3</sup> of water) or in monetary units (e.g., dollars per m<sup>3</sup> water). Several digital models can predict water flows resulting from different basin interventions. You need to know how much the basin will change (in terms of water quantity, quality, or flux) because of your intervention to be able

to allocate the costs and benefits. The most common valuation, however, is done in monetary terms, as this is a powerful tool for policymakers that allows for the comparison of development scenarios. Monetary estimations support the elucidation of trade-offs and synergies between various strategies for resource allocation, to inform management decisions.

There are several economic valuation techniques, from using well-established market prices to relying on willingness-to-pay polls. Each one has specific data and level of expertise requirements and will, in turn, deliver different results. Nevertheless, providing some form of value with an associated explanation of the assumptions used in the calculations does enable the range of benefits to be taken into account, rather than be ignored due to lack of data. Some ecological and social impacts of an intervention cannot be 're-paid' with economic benefits, since economic or technical advances will hardly replace the supporting functions of ecosystems or the cultural linkages of a

community. In addition, the dynamics of the ecosystem and its resilience to change are not always clearly understood, and the impacts of an intervention are not always linear in time or space. Hence, the economic value of the development scenarios for the basin should be just one of the many inputs taken into account in the negotiation process that will be undertaken in Step 5. Providing the most benefits, for the majority of stakeholders, in the long term in the watershed, is, and should always be, the main goal of sharing benefits from the river. Inaction also has a cost; building scenarios that help calculate the net benefit of cooperation will help identify the actual cost of non-cooperation.

The concept of 'total economic value', which encompasses several types of use and non-use values, is better suited for a benefit-sharing analysis and can be related to the conceptual framing proposed in this training package (see table on the next page).

<b>Ecosystem Services Approach</b>	<b>Total Economic Value</b>	<b>Sharing Benefits</b>	<b>Economic Valuation Technique/ Method</b>	<b>Examples</b>
Provision Goods	Direct consumptive use	Benefits from the river (economic and social benefits)	Market price; cost-based methods (avoided, substitution, replacement); hedonic pricing; travel cost	Securing water for crops, drinking, aquaculture, etc.; lowering the costs of water provision
Provision Services	Direct non-consumptive use			Water for hydroelectric power, navigation, recreation, and tourism, etc.; increased property value
Regulation Services	Indirect use	Benefits to the river (environmental benefits)		Water quantity and quality regulation, sediment flow; reduced risk from water-related disasters (floods, droughts); health maintenance; inputs and outputs of economic activities that mobilise other economic sectors and increase job opportunities
Cultural Benefits	Option	Benefits because of the river (political, peace, and security benefits)	Avoided cost of conflict and savings from reduced military spending	Development of regional markets for goods, services, and labour; increase in cross-border investments; development of transnational infrastructure networks
	Bequest	Benefits beyond the river (regional trade benefits stemming from greater trust among states)	Contingent valuation, choice experiments, Delphi Method	Strengthening of international law; increased geopolitical stability; strengthened diplomatic relations; joint initiatives and investments; creation of a shared basin identity
Support Services	Existence		Contingent valuation, choice experiments, Delphi Method	Supporting functions of ecosystems and benefits for future generations



## The ethical debate around the valuation of ecosystem services

There are important ethical considerations when assigning a value to what is considered in the literature as *cultural ecosystem services* or *non-material ecosystem services*. Assigning a 'value' to these services is complicated further by the fact that different values can be attached to the same benefit and can change with the passing of time.

Additionally, 'value' is often confused with 'price', which is determined by the sellers' and buyers' market. It should be noted that most of the environmental and social benefits and costs of a water intervention in a basin would not be recognised in a traditional market and, therefore, do not have a price.

Furthermore, even if a market could be created for such a service, it can have severe effects in terms of equity, since not all stakeholders could 'afford' access to that service. Environmental goods and services have always been a safety net for the most vulnerable groups, who would also be the most affected should a price be put on their use.

Moreover, voices in the debate will argue that it is impossible to add a value or price to an environmental service that is part of nature and therefore has an inherent worth or emotional value, or to value an asset that is part of a larger whole and therefore cannot be seen as a separate service to be priced. It is important to keep these risks and limitations in mind and to be strategic about when and how to undertake monetary assessments.

### Other resources

Small, N., et. al. (2017). The challenge of valuing ecosystem services that have no material benefits *Global Environmental Change*, Volume 44.

University of Cambridge (2014). *Does it help conservation to put a price on nature?*  
<https://www.cam.ac.uk/research/news/does-it-help-conservation-to-put-a-price-on-nature>

## Desired outcomes and outputs

- Participants understand key concepts, tools, potentials, and limitations of introducing economic valuation tools and other quantifying techniques to the basin development scenarios and the cooperation process.
- Participants also understand that even when economic revenue is an important aspect of choosing the interventions in the basin, non-economic considerations should be taken into account to enhance the range of benefits for stakeholders.
- Participants continue to build trust through exchange and dialogue, enhancing understanding of basin dynamics and perspectives of different stakeholder groups.
- At the end of this step, participants will have developed the economic value of the development scenario/water interventions in the basin to then feed into the following steps on negotiation and institutional arrangements.

## Facilitation process

Using the supporting PowerPoint materials, the facilitator should walk the participants through the different assumptions around valuation estimations. There are many approaches, all with their caveats and assumptions, and this is key to understand when undergoing economic valuation estimation. Many – but not all – benefits can undergo a quantitative assessment, depending on the ambition of the cooperative process and the available data, budget, and level of expertise. For this training package, data has been provided in accompanying fictional case study materials, so these should be used in this session.

The objective of the group exercise in this step is to familiarise the participants with economic values associated with different interventions and to get them to estimate overall costs and benefits of different interventions in monetary terms. Economic valuation data for the fictional case study is prepared in the accompanying materials and should be used to guide the group work. At the end of the exercise, participants will have a completed matrix from Step 3 with monetary values calculated for the different scenarios.

### **Group work Exercise 1 – Adding value to the costs and benefits identified (suggested time 2 hours):**

Ask participants to populate the benefit and opportunities assessment template from Step 3 with values using the fictional case materials – see accompanying exercise guide and templates. This should be a simple matching exercise that adds an additional layer of information to the options presented in the template in Step 3.

Next, the participants need to calculate the final column of the benefit and opportunities assessment template, which presents a benefit/cost calculation for each water intervention (row). This involves summing up all positive values and dividing them by all the negative values (absolute values). If the result is higher than 1, the project is deemed beneficial; a higher number would be the best option. If the result is equal to or lower than one, the project will bear more costs than benefits.

#### **Debriefing – How to interpret the results:**

Provide adequate time to allow participants to digest and discuss the results, as an economic lens often can skew previously agreed scenarios.

#### **Some guiding questions:**

- How might the economic assessment influence different stakeholder groups (especially those with decision-making power)?
- Which stakeholder groups are most likely to lose out if decisions are made purely on economic grounds?
- What arguments can be made to skew decisions towards developments that are less economically beneficial but that are considered most beneficial to stakeholders involved in the process?
- What considerations/principles could support the development of negotiation processes that are fair and equitable?

## Helpful resources

Daily, C. (1997). *Nature's services: Societal dependence on ecosystem services*. Washington, DC: Island Press.

DEFRA (2007). An introductory guide to valuing ecosystem services.

Emerton, L., Bos, E. (2004). Value – Counting Ecosystems as an Economic Part of Water Infrastructure. IUCN, Gland, Switzerland.

Figuroa, E. and R. Pasten. (2014) Economically valuing nature resources to promote conservation: An empirical application to Chile's national system of protected areas, *Papers in Regional Science*, Vol. 93 No. 4.

GEF (2019). *Guidance documents to economic valuation of ecosystem services in IW Projects* <https://iwlearn.net/resolveuid/Offc8834-af39-488a-852a-4348fee97b85>

IUCN (2012). Investing in ecosystems as water infrastructure. IUCN Water Briefing.

IUCN (2010). Valeur économique de la vallée du Sourou: Evaluation préliminaire.

Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC. <https://www.millenniumassessment.org/documents/document.356.aspx.pdf>

Plottu, Eric; Plottu, Béatrice (2007). "The concept of Total Economic Value of environment: A reconsideration within a hierarchical rationality". *Ecological Economics*. 61 (1): 52-61

Pagiola & von Ritter & Bishop (2005). "Assessing the Economic Value of Ecosystem Conservation," Others 0502006, University Library of Munich, Germany.

Ramsar (2006). Valuing wetlands: Guidance for valuing the benefits derived from wetland ecosystem services. Ramsar Convention Secretariat.

TEEB (2013). *The Economics of Ecosystems and Biodiversity for Water and Wetlands*.

UNECE (2018). *Identifying, assessing and communicating the benefits of transboundary water cooperation*. Guidance Note.

WWF & IFC (2015). A framework for understanding water valuation, risk and stewardship.

## Videos/Presentations:

[Principles of watershed services from ecosystems and examples of application of an ecosystem approach in river basin management \[Video presentation by Mark Smith\]](#)

[The Sourou Valley: Yesterday and Tomorrow \[Video by IUCN PACO\]](#)



# STEP 5 – Negotiation of benefits



## Checklist – What do I need to conduct this step?

- Negotiation is based on trust and informed dialogue. It is recommended that, before the start of this step, a series of previous dialogues, as suggested in Steps 1-4, have been held, so that participants have a clear idea of the needs, interests, and priorities of the benefit-sharing negotiation.
- The results from Steps 3 and 4 should be available as input for the dialogues. We recommend that you provide the results from Step 3 discussions; these can be printed in advance or shown through a projector to the whole audience during the session.
- Fictional case study materials as indicated in the facilitation process notes.

## Objectives

In this step, participants should reach agreements to implement the most equitable pathway for developing the basin. This means choosing the scenario with the best net benefit result. However, not every stakeholder will be happy with the chosen alternative; hence the negotiation needs to take place through a constructive and informed dialogue. Fair, effective, and sustainable management of shared benefits requires negotiation to ensure that the needs, priorities, and interests of all relevant stakeholders are recognised, thoroughly discussed, and met to the degree possible. In the previous steps, participants identified the relevant stakeholders, the possible benefits and costs per stakeholder, and various benefit-enhancing scenarios, as well as cost analyses of these.

These steps are meant to ensure that stakeholders have all the information needed to take part in an informed negotiation, as consensus

building can only be achieved with a proper understanding of the interests, challenges, needs, and priorities of all interested stakeholders or relevant parties. As such, seemingly disadvantaged stakeholders can use the information they have acquired to argue for equitable agreements. In the context of rising demands for scarce water resources, negotiating the benefits constitutes a critical mechanism to prevent tensions and reduce the potential for conflict between stakeholders sharing rivers, lakes, and aquifers. Finally, negotiation serves relevant stakeholders to see the water resource as a connecting factor rather than a dividing one.

One key challenge that often emerges from basin interventions is how the costs should be allocated and how those stakeholders that may be impacted negatively by a given intervention should be compensated. The valuation of costs and benefits in Steps 3 and

4 will provide the grounds for determining the amount of potential compensations and ways to reach agreement on that compensation. While compensation measures are rarely

themselves negotiated, there are mechanisms, such as Payment for Ecosystem Services or funding for local projects, that can act as 'compensation' for impacted stakeholders.

### Effective negotiations in transboundary waters focus on the 4Rs:

- **Rewards (What rewards? Whose rewards?)**

Ranging from the creation and sharing of benefits to the sharing and reduction of costs.

- **Risks (What risks? Whose risks?)**

Stronger emphasis on the risks all actors assume, either voluntarily or involuntarily.

- **Rights (What rights? Whose rights?)**

Focus on the wide range of potentially overlapping rights that will be claimed, and different views on their priorities, which will influence engagement, negotiation, and agreements.

- **Responsibilities (What responsibilities? Whose responsibilities?)**

Focus on the roles, duties, liabilities, and obligations of different water actors.

The basis of negotiations is good faith. This is understood as the aim to act with honest intent, fairness, and sincerity, and with no plan of deceit. This principle, which governs the relationship between States and is fundamental to maintaining international peace and security, therefore should also be used in stakeholder-driven benefit-sharing dialogue processes.

To conduct a negotiation process, a facilitator will need a clear understanding of how to drive the negotiation in order to build a fluid dialogue between interest groups. Relationships built as a result of face-to-face communication help disentangle stereotypes and increase understanding. It is important to consider that factors such as the context of the negotiation,

cognitive reasoning, and human behaviour can have a deep impact on the processing of information and affect decision-making outcomes. Good preparation and facilitation of the negotiation process will also help in addressing technical matters, build trust among stakeholders, and, in some cases, shift the discussion to interpretation of the information available rather than the facts themselves. We can expect stakeholders to be concerned with the equality of the final outcome. The financial context of each basin intervention or developmental pathway will be critical in defining the success of the negotiations; hence it is important to clearly prepare the information resulting from Step 4.

## Desired outcomes and outputs

- Understand the concepts and skills needed to prepare and conduct negotiations in the context of benefit sharing.
- Learn how to identify potential windows of opportunity to reach consensus and agreement.
- Recognise in advance potential scenarios of tension and conflict to start negotiation and ensure peaceful relations between stakeholders.

## Facilitation process

Steps 1-4 help build relationships and trust among the stakeholders as they work through and discuss the available information together. Trust is essential for the resolution of conflicts if they arise.

The facilitator, working through the supporting PowerPoint slides, needs to clarify that, for equitable and informed negotiations to take place, everyone at the table needs to have access to the same information. To kickstart discussions, participants can be asked the following questions:

- How can we create an enabling environment for negotiating the different scenarios?
- How can we reach a long-lasting agreement on the most equitable pathway for the basin?
- What can be the most effective set of arrangements to bring into practice that scenario?
- How can we compensate the stakeholders that are compromising their opportunities in the selected scenario?

### Group work Exercise 1 – Negotiating an agreement on benefit sharing:

Participants are put in groups and given the following instructions:

You are a member of your country's delegation, tasked with negotiating an agreement for benefit sharing between Konfundesia and Akinonia in the Takong basin. Recall that you have worked with your counterpart riparians to establish that the base case of non-cooperation was *not* advantageous to most stakeholders in either country.

Table 1, below, provides a detailed listing of the benefits that each country seeks to achieve, their specific beneficiaries, and measures each country can take to achieve those benefits.

There is now a *possible agreement* for cooperation on a set of projects and water management solutions, which you are weighing:

#### **POSSIBLE AGREEMENT between Konfundesia and Akinonia to share benefits from the Mumbara River:**

- **Konfundesia** will construct the Edara Dam on the Mumbara River, with an enlarged hydropower capacity. It will negotiate a long-term agreement with Akinonia to provide it with power from this dam.
- **Akinonia** will remove the Papyrus Dam and drain the Papyrus Reservoir.

**Your task as a member of your country delegation is to determine whether the possible agreement is of interest to your country. In doing so, you will seek to:**

- Maximize tangible and intangible benefits for your country
- Minimize costs
- Maximize the number of stakeholders coming out better-off in your country.

In order to proceed with this possible agreement, the parties have commissioned a study to provide an estimated valuation of benefits and costs to be incurred by each country, shown in Table 1 below. (For details on benefits and costs per activity, refer to Annex 4: Values of benefits and costs in a benefit-sharing approach, in the Exercise guide.)

**Table 1. Benefits and Costs to Konfundesia and Akinonia under possible agreement**

	Konfundesia	Akinonia
<b>Benefits</b>	(1) Revenue to the hydropower sector from the sale of electricity (2) Electricity self-sufficiency for Konfundesia (3) Long-term contract and revenue for sale of hydropower to Akinonia (4) Lower maintenance costs for the Tarpon canal for the city of Estambay, due to the elimination of the Papyrus Reservoir (5) Lower incidence of water-related disease for the city of Estambay, from elimination of Papyrus Reservoir <b>Total benefits estimated at: \$1100</b>	(1) Saved construction costs for the Papyrus Dam to provide electricity for the city of Styropolis (2) Savings from no operation and maintenance of Papyrus Dam (3) River navigation to upstream cities (4) Improved environmental flows in Akinonia resulting from removal of the Papyrus Dam <b>Total benefits estimated at: \$480</b>
<b>Costs</b>	(1) Construction of Edara Dam (2) Cost of enlarged hydropower generation capacity <b>Total costs estimated at: \$600</b>	(1) Demolition of the Papyrus Reservoir (2) Lost electricity revenue from the Papyrus Dam (3) Cost of electricity purchase from Edara plant (4) Loss of environmental flows and corresponding economic and cultural benefits (5) Energy dependency (losing self-sufficiency) <b>Total costs estimated at: \$640</b>

**Each delegation will convene to deliberate on the following questions before returning to the plenary for Round 1:**

- In each country, which stakeholders stand to gain and which stand to lose?
- Is this possible agreement satisfactory in light of these benefits and costs, keeping in mind that your country may seek additional benefits?
- What are some additional measures/actions that you would propose to make this a better agreement for stakeholders in your country?

During **successive rounds**, you are free to identify additional potential benefits, costs, and compensation mechanisms to help yield better outcomes.

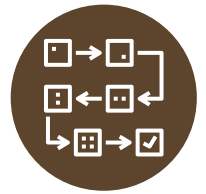
## Helpful resources

Dore, J., Robinson, J., and Smith, D.M., eds. (2010). *Negotiate: reaching agreements over water*. IUCN.

Rieu-Clarke, A., Moynihan, R., and Magsig, B.O. (2012). UN Watercourses Convention: user's guide. IHP-HELP Centre for Water Law, Policy and Science (under the auspices of UNESCO).



# STEP 6 – Setting up institutional arrangements and implementation mechanisms



## Checklist – What do I need to conduct this step?

- Completion of Steps 1-5 and associated group work outputs, to base the discussions in this step on.
- Prepared PowerPoint slide deck.

## Objectives

Steps 1-5 have laid the groundwork for negotiating benefit-sharing arrangements among relevant stakeholders in a basin. This final step aims to bring into practice the consensus reached and the agreements made from the negotiation stage under Step 5.

Once consensus is reached, usually through an agreement, it must be operationalised in order to bring the cooperative vision into practice. This may require institutional arrangements and implementation mechanisms.

Agreements between stakeholders from different sectors will enable enhanced cooperation and ensure policy coordination, coherence of investments, and, ultimately, an integrated basin management strategy. Certain kinds of agreement, such as international treaties, are

often linked to the existence of an institution to host them and provide secretariat or administration functions. In cases where an appropriate institution does not exist, or setting one up is not among the basin States' short- or medium-term objectives, other types of platforms or mechanisms will be needed.

Considering that almost 60 percent of transboundary basins do not currently have a cooperative management framework to regulate and ensure equitable utilization of water, the last step of this exercise becomes particularly important. While the end goal itself might not be a treaty, this step demonstrates the importance of building consensus and reaching agreement over priority issues and the need to set up mechanisms to implement benefit-sharing scenarios.

# Background

Institutional mechanisms are needed to articulate, materialise, and implement the content of water agreements. Institutions can take different forms, and there is no one single size of institutional architecture or structure that fits all basins. These institutions may include international organisations with distinct legal personalities, regional commissions, river basin organisations, platforms of national agencies, or local water user groups. The specific functions, jurisdiction, and competencies of these institutions will depend on the mandate provided by those setting up the institution (i.e., for a transboundary basin, it is normally the States) and the provisions set out in applicable agreements and national laws.

Water institutions address complex environmental, social, economic, and political issues that can be reflected in the specific functions and competencies of those institutions, including:

- Designing and implementing basin management plans;
- Developing policies, guidelines, and strategies;
- Fostering public participation;
- Operating and maintaining water infrastructure;
- Conducting research for planning, monitoring, and control; and
- Solving and preventing conflicts.

To be effective, agreements require clear and well-structured mechanisms to define all the necessary steps and actions to achieve the vision and objectives inherent in the agreement.

Implementation of agreement objectives such as protection of freshwater ecosystems, integrated water resource management, and

promotion of peace and security will not and cannot be handled by one single institution, but must be overseen by several institutions from different sectors and levels. In such cases, it will be important to ensure decentralisation and devolution of authority while maintaining overall institutional coordination.

For example, a river basin organisation established by an agreement might need to align and synchronise its work with national water ministries and agencies, which, depending on the issues at stake, might need to consult other sectorial bodies, such as ministries/authorities of environment, foreign affairs, agriculture, energy, fisheries, or planning. At the same time, these agencies might need to guide municipalities and local water users to implement the contents of the agreement.

Depending on the level of political commitment between States, institutional mechanisms can be reflected in different structures, including high-level conferences of heads of State, ministerial meetings, and technical committees. More complex structures can include the establishment of a secretariat or expert groups. (For further analysis on institutional mechanisms, see *RULE: Reforming Water Governance*, page 70.)

The concrete and tangible mechanisms that institutions might put in place to implement the content of water agreements will be subject to the existing financial and technical capacities of the States. This will require, among other concrete actions, the regular exchange of data and information regarding the state and quality of the waters and other resources of the basin, the granting of environmental permits for infrastructure development, analysis of environmental impact assessments, etc.

As the funding and financing of projects implementing benefit-sharing arrangements will be a central part of the implementation of any agreement, it is important to establish where funds can be raised to ensure their sustainability. Here, regional financing institutions and development banks should be considered, as well as opportunities to develop projects that fit

the portfolios of big climate funds, such as the Global Environment Fund (GEF) or the Green Climate Fund (GCF). The inclusion of GEF and GCF implementing agencies, such as IUCN, as a part of Step 6 should be considered, as these will be able to assess what the suggested projects or programmes would need to be eligible for this type of funding.

## **Examples of institutional arrangements and implementation mechanisms**

### **Binational Commission managing the nine transboundary basins between Ecuador and Peru**

The treaty between Ecuador and Peru to establish the management of the nine transboundary basins shared between the two countries provided for creation of a Binational Commission.

This commission was established to facilitate the implementation of the treaty and set forth the frameworks under which further collaboration between the parties will take place. The institution foresees the inclusion of water agencies, ministries, sub-national governments, and local stakeholders. These arrangements are reflected in the architecture of the Commission, and its operative framework states the roles, responsibilities, and decision-making protocols to be followed.

### **GEF Pungwe-Buzi-Save (PuBuSa) project**

The preparation and submission of a GEF project in the Pungwe-Buzi-Save Basin, shared between Mozambique and Zimbabwe, supports the two riparian States' mutual interest in improving the management of the river basin. Preparing a successful GEF project can set the enabling conditions to support the countries in reaching agreements and setting-up functioning basin institutions to govern the management and conservation of their shared resources and ecosystems. Coupled with public investments, GEF funds can then support actions agreed at the transboundary level.<sup>1</sup>

### **Sio-Malaba-Malakisi: preparing an investment plan and a financial sustainability strategy**

A benefit-sharing identification and negotiation process was organised for local stakeholders of the Sio-Malaba-Malakisi basin, between Kenya and Uganda. Potential development projects, with the highest benefit vs. cost scores, were identified and further developed as part of an investment framework for the basin. This framework has laid the groundwork for preparation of a plan and a financial sustainability strategy, which are being used as the background for GEF project preparation, to bring climate finance into the basin.<sup>23</sup>

## **Legal tools**

Through decades of working on matters related to transboundary water governance and institution building, the IUCN Environmental

Law Centre has developed tools to support the development of legal and institutional frameworks, which could be applied as part

of Step 6 – including the Legal Assessment on Water Governance Opportunities (LAGO) and the Transboundary Instruments Development Tool (TIDE).

### **LAGO – Legal Assessment on Water Governance Opportunities**

LAGO is an assessment tool that enables users to understand the characteristics of a water governance regime and identify gaps in a State’s national policy, legislation, and institutional set up. This enables its users to develop country-specific action plans to improve the quality of water governance arrangements.

The tool contains an indicative list of questions to guide the user through the complexities of different governance components and is divided into three sections:

- 1) Policy and legislation
- 2) Institutions and administration
- 3) Implementation and enforcement

LAGO was developed after a comprehensive cross-national comparative analysis of legal and institutional provisions common to several jurisdictions. In those jurisdictions, some principles, approaches, and practices were identified to enhance water governance capacities; these can be regarded as common practice in water governance. These key elements form the headings in each section of LAGO, under which there is a set of interrogations. LAGO suggests how these elements can be reflected in the legal and institutional framework, as well as the implementation mechanisms required to operationalise them.

For more information on LAGO please visit: [www.waterlawandgovernance.org](http://www.waterlawandgovernance.org)

### **TIDE – Transboundary Instruments Development Tool**

#### **Guidance Tool for Preparation of Water Cooperation Arrangements**

TIDE is a guidance tool to help support the development of transboundary instruments. It was developed by the IUCN Environmental Law Centre to facilitate the negotiation of transboundary water agreements.

TIDE was applied in Latin America (e.g., Ecuador and Peru) and in the Horn of Africa (e.g., Uganda and Kenya) and, as such, can be adapted to the legal and political contexts of any given basin.

For more information on TIDE please visit: [www.waterlawandgovernance.org](http://www.waterlawandgovernance.org)

## Desired outcomes and outputs

- Identify the essential arrangements (institutions or institutional platforms/set up) that are needed to implement the agreements.
- Define the range of implementation mechanisms required to implement the collaboration envisioned with the agreement/s.
- Determine the role of the various stakeholders and interested parties within the negotiations leading to an agreement.



- Establish the role of non-State actors in the implementation of the agreements and their participation in the institutional framework.
- Establish rules for resolving any conflict or dispute that might arise in the implementation of the agreement (regarding interpretation of and application of the agreement).

## Facilitation process

Use the PowerPoint slide templates and the information provided on institutional arrangements and implementation mechanisms to facilitate a discussion among participants on the most suitable type of mechanism for a given context. Include time for discussion around the possible financial requirements of each option, the roles and responsibilities of the

various stakeholders vis-à-vis government and local authorities, and conflict resolution mechanisms and provisions. Leave room for considering whether other neutral actors should be invited as a part of this step to support the development of the institutional arrangement and/or implementation mechanisms.

### **Group discussion on Step 6 (30 minutes in groups, 30 minutes in plenary):**

Use the materials prepared in Steps 1-5, as well as the agreed way forward from the negotiation process in Step 5, to have a discussion, first in small groups and then in plenary, about what the participants would see as the most useful institutional arrangement or implementation mechanisms in the fictional basin.

## Helpful resources

Aguilar, G. and Iza, A. (2011). *Governance of Shared Waters: Legal and Institutional Issues*, Gland, Switzerland, IUCN.

GEF (2021). *Project documents for managing competing water uses and associated ecosystems in the Pungwe-Buzi-Save (PuBuSa) river basin* <https://www.thegef.org/project/management-competing-water-uses-and-associated-ecosystems-pungwe-busi-and-save-basins>

Hassenforder, E. and S. Barone (2018). Institutional arrangement for water governance, *The International Journal for Water Resources Development*, Vol. 35, Issue 5.

IFAD (2017). *Guide for Practitioners on Institutional Arrangements for effective project management*.

IUCN (2019). *Sio-Malaba-Malakisi (SMM) Investment Framework* [http://www.waterandnature.org/sites/default/files/smm\\_investment\\_framework\\_final.pdf](http://www.waterandnature.org/sites/default/files/smm_investment_framework_final.pdf)

IUCN (2019). *Sio-Malaba-Malakisi (SMM) Four prioritised investment projects* [http://www.waterandnature.org/sites/default/files/smm\\_4\\_prioritized\\_investment\\_projects\\_new.pdf](http://www.waterandnature.org/sites/default/files/smm_4_prioritized_investment_projects_new.pdf)

Iza, A. and R. Stein, eds. (2009). *RULE – Reforming water governance*. Gland, Switzerland, IUCN.

UNDP (2009). *Capacity Development: a UNDP Primer*. New York, US.









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